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(54) **Welding method and apparatus therefor**

(57) An apparatus (10) and method for welding a superalloy article. The apparatus (10) generally entails an enclosure (12) adapted for containing a superalloy article, a polarity-reversing plasma transferred arc welder apparatus (20) for welding a localized region of the article, an induction coil (14) for heating the localized region, and means for sensing (24) and controlling (26) the temperature of the localized region. The induction

coil (14) is placed in close proximity to the localized region of the article so that the temperature of the localized region is largely determined and quickly altered by the output of the coil (14). The welding apparatus (20) is operated at very low currents of not more than forty-five amps, so that the welding apparatus (20) has only a secondary heating effect compared to the induction coil (14).

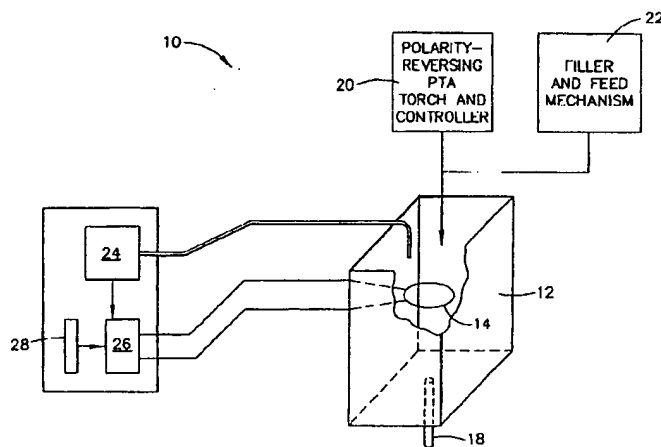


FIG. 1

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EUROPEAN SEARCH REPORT

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EP 99 31 0552

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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) B23K
Place of search MUNICH		Date of completion of the search 10 August 2001	Examiner Jeggy, T
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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